

REMARKS

Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the amendments above and the remarks below.

Claim 25 has been amended for clarification purposes to overcome the rejections under 35 U.S.C. 101.

Claims 1, 10, 16 and 25 have also been amended for clarification purposes to overcome the rejections under 35 U.S.C. 112, second paragraph.

No new matter has been added.

Allowable Subject Matter

The Examiner has indicated that claims 1, 3-10, and 12-24 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112 set forth in the above-identified Office Action, and that claim 25 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 101 set forth therein.

For the reasons as discussed below in detail, applicants submit that claims 1, 3-10, and 12-25 have been amended such that these claims are now in a condition for allowance.

No new matter has been added.

Claim Rejections – 35 U.S.C. § 101

In the above-identified Office Action, the Examiner has withdrawn the previous rejections under 35 U.S.C. 101 of claims 1, 3-9, and 21-24 as being directed to non-statutory subject matter, and of claims 16 and 18-20 as being directed to non-statutory subject matter. Applicants appreciate the withdrawal thereof.

However, the Examiner now rejects claim 25, alone, under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Examiner states that claim 25 does not meet criteria (1) as the machine (i.e., "a photomask") is only tied to an intended use statement (i.e., "to be projected via a photomask"), and such a positively recited tie required must be in relation to a step or steps that are significant to the invention or basic inventive concept, nor does it meet criteria (2) as there is no underlying material being transformed to a different state or thing.

Accordingly, applicants have amended independent claim 25 to recite that the method includes generating a pattern on the photomask corresponding to the photomask layout created in accordance with the claimed method for the useful result of projecting such photomask layout via the photomask onto a resist layer. That is, an underlying resist layer material is transformed to a different state by projecting the photomask layout onto such resist layer using the photomask. Support for the amendments can be found in the specification at least at paragraphs [0003] and [0027] and in Fig. 1. Applicants submit that amended claim 25 produces a "useful, concrete and tangible result," and as such, overcomes the rejection under 35 U.S.C. 101. *State Street Bank & Trust Co. v. Signature*

Financial Group Inc., 149 F.3d 1368, 1373-74, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998); MPEP 2106.

In view of the foregoing, applicants submit that independent claim is now in a condition for allowance.

No new matter has been added.

Claim Rejections – 35 U.S.C. § 112

Applicants appreciate the withdrawal of the rejections under 35 U.S.C. 112, second paragraph, set forth in the previous Office Action.

The Examiner now rejects claims 1, 3-10, and 12-24 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner takes the position that the identification of different types of bisectors (once they are determined) and then the creation of SRAFs based the different types of bisectors appears circular. The Examiner states that the creation of SRAFs are based on the different types of bisectors, but in the claim the different types of bisectors are dependent on SRAF position with respect to each of those bisectors (e.g., the first type of bisector requires by definition a specific position of an SRAF). The Examiner gives an example, stating that it appears that two sets of SRAF exist in the same area –one needed to define the first type of bisector and the second that is created based on the first type of bisector.

Applicants respectfully disagree with the Examiner's interpretation of the claims and submit that the claimed process is not circular. As is claimed, the invention is directed to

a method of creating a photomask layout for projecting an image of an IC design by creating a layout of spaced IC shapes to be projected via a photomask and creating Voronoi cells around these spaced IC shapes. The bisectors (which comprise locus of points that are equidistant from edges of adjacent spaced IC shapes and define shared boundaries of adjacent Voronoi cells) are determined between adjacent ones of these spaced IC shapes, and then different types of these bisectors are identified based on the vertices thereof, namely, those of a first type, second type and third type. It is submitted that contrary to the Examiner's interpretation, the different types of bisectors are defined based on the vertices of such bisectors –they are not defined by the SRAF or the SRAF position with respect to such bisectors as suggested by the Examiner. Independent claims 1, 10, 16 and 25 have been amended to clarify that which applicants regard as the invention.

As is claimed, once the different types of bisectors are identified, SRAFs are then created between adjacent ones of the spaced IC shapes based on these different types of bisectors. In so doing, as recited in the subclaim limitation of this process step, SRAFS are created between adjacent ones of the spaced IC shapes based on the type of bisector. That is, this subclaim limitation clarifies that different SRAFS are created based on whether the identified bisectors are of the first type, second type, or third type of bisector. Again, contrary to the Examiner's interpretation, applicants submit that the SRAFs are not needed to define the type of bisector, but rather, the type of bisector is used to define the SRAF that is to be created between adjacent ones of the spaced IC shapes.

For the reasons as discussed above, it is respectfully submitted that the currently pending claims are allowable under 35 U.S.C. 112, second paragraph.

No new matter has been added.

Applicants Comments

Applicants acknowledge and confirm the Examiner's position that neither Robles nor Papadopoulou, alone or in combination, disclose, teach or suggest identifying different types of bisectors based on vertices of such bisectors and then creating SRAFs based on these different types of bisectors, as is currently claimed. Accordingly, the pending claims are allowable over the cited prior art of record.

In view of the foregoing, it is submitted that claims 1, 3-10, 12-16, and 18-25 are in condition for allowance.

It is respectfully submitted that the application has now been brought into a condition where allowance of the entire case is proper. Reconsideration and issuance of a notice of allowance are respectfully solicited.

Respectfully submitted,



Kelly M. Nowak
Reg. No. 47,898

DELIO & PETERSON, LLC
121 Whitney Avenue
New Haven, CT 06510-1241
(203) 787-0595